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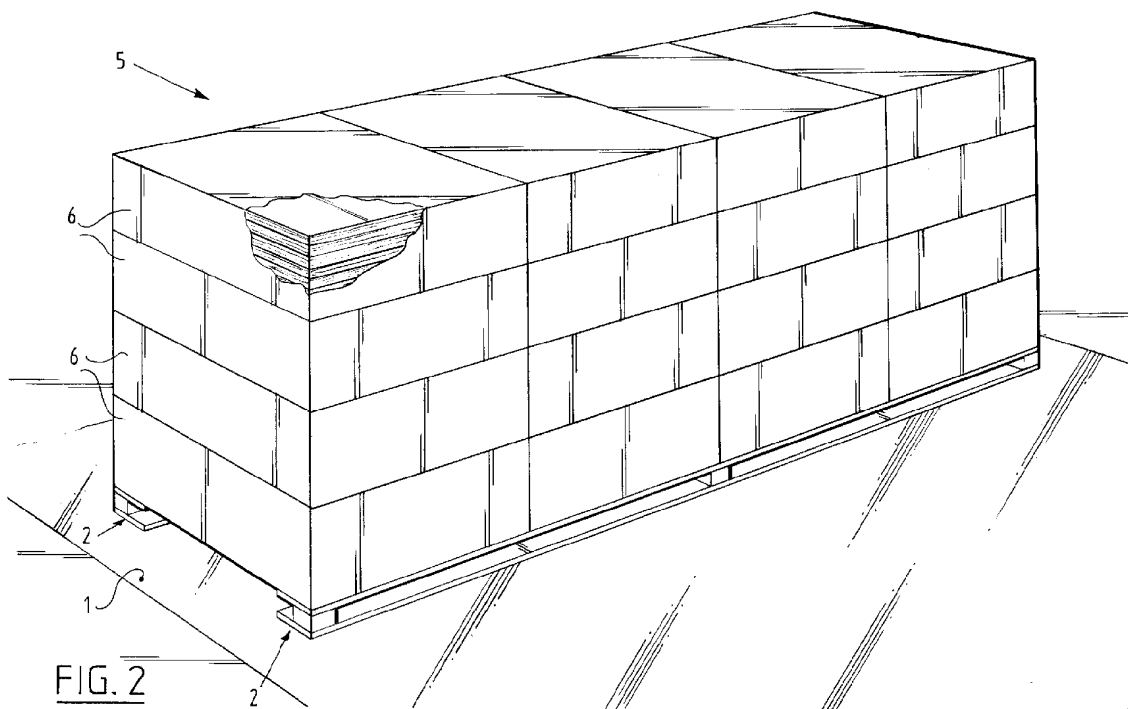
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(54) **Separated pallet**

(57) The invention relates to a combination of a load (5) with a substantial flat bottom and a pallet (2) located under said load (5), wherein the load (5) and the pallet (2) are only mutually connected by at least one element (7) extending around the load (5) and the pallet (2), wherein the pallet (2) comprises two separate elongate parts extending mutually parallel.

By making use of at least one element (7) extending around the load (5) and the pallet (2), good fixation is obtained without needing extra efforts.

Preferably, the separate parts of the pallet (2) are substantially flat at their upper sides. This offers the possibility to use the separate parts of the pallet (2) with a substantially flat bottom of the load (5).



Description

[0001] The present invention relates to a combination of a load with a substantial flat bottom and a pallet located under said load, wherein the load and the pallet are only mutually connected by at least one element extending around the load and the pallet.

[0002] Such a combination is generally known. Herein the load is located on the pallet, and subsequently around both elements an element extending around the load and the pallet has been applied. Thus a rigid combination is obtained.

[0003] Such a combination has the disadvantage that normal, bulky pallets must be used. The use of pallets per se under a load does not entail so much problems, but the pallets should be returned after use, leading to high costs.

[0004] The aim of the present invention is to provide such a combination, in which less bulky and larger pallets can be used, so that the return of such pallets entails less costs.

[0005] This aim is reached in that the pallet comprises two separate elongate parts extending mutually parallel.

[0006] This leads to a substantial reduction in volume and weight. The reduction of weight is of importance for the transport together with the load; the mass to be transported is substantially reduced hereby. The reduction in volume is in particular of importance with the returning of the pallets; these can easily be stacked close together and be sent back, because they are formed by separate loose parts.

[0007] It is, however, noted that separate pallet parts are per se known from NL-A-7508577, NL-A-7609952, NL-A-7713140.

[0008] In each of these prior art constructions fixing means have been used for fixing the pallet to the load.

[0009] In NL-A-7508577 use is made of double-sided adhesive material, in NL-A-7609952 of straps and in NL-A-7713140 of planks, so that a complete well-known pallet is formed.

[0010] Further, EP-A-0 564 989 discloses such a pallet, which has been connected with the load with a kind of bajonet connection.

[0011] It will be clear that the use of fixing means entails problems; these means should be applied and should subsequently be removed, while there is a substantial danger that the load is being damaged by the adhesive or fixing means.

[0012] By making use of at least one element extending around the load and the pallet, good fixation is obtained without needing extra efforts.

[0013] Indeed, often use is made of foil, such as stretch foil or shrink foil around the load to protect. The invention is, however, not limited to such an embodiment; use can also be made of other elements, like plastic tape.

[0014] It is surprising that, despite the expectation that after the application of the stretch foil or the tight-

ening of the tops the separate parts will be urged inwardly from their original position at the rim of the bottom of the load, this does not happen. Instead thereof the pallet parts keep their original position and they are firmly connected with the load.

[0015] Preferably, the separate parts of the pallet are substantially flat at their upper sides. This offers the possibility to use the separate parts of the pallet with a substantially flat bottom of the load.

[0016] According to another preferred embodiment the envelope has been wound around a vertical axis. This offers the possibility only after the unification of the load and the pallet part the thus developed combination to provide of a stretch foil of another envelope and without having to wind under the bottom of the combination. This leads to a substantial saving of equipment.

[0017] The invention also relates to a pallet part for forming a combination according to one of the claims 1-3 together with another pallet part load in an envelope, in which the pallet part comprises at least two carriers extending mutually parallel, and which are connected by a number of chocks.

[0018] This allows to engage the combination of two of said pallet parts with a load from all four sides with a forklift truck.

[0019] Preferably, the planks are wider than the chocks and the planks protrude both from the chocks at the same side.

[0020] This feature has the advantage that a bigger engagement area with the load is obtained, so that the danger of tilting of the pallet parts small per se is avoided.

[0021] This allows the combination of two such pallet parts to be engaged by a forklift truck from all four sides.

[0022] Other preferred embodiments appear from the other subclaims.

[0023] Subsequently, the present invention will be elucidated with the help of the accompanying drawings, which show:

figure 1: a perspective view of two pallet parts located on a floor;

figure 2: the situation depicted in figure 1 after that a load was located on both pallet parts;

figure 3: a depiction of the situation of figure 2, after which around the combination of pallet parts and load the stretch foil was applied and was fixed; and figure 4: a perspective view of pallet parts according to the present invention, when they are stacked on each other for returning.

[0024] Figure 1 shows a floor, on which two pallet halves 2 have been located.

[0025] Each pallet half comprises two mutually identical planks 3, which have been mutually connected by wooden chocks 4. Herein the chocks 4 have a substantially square horizontal cross section, and of which the size in the direction perpendicular to the longitudinal di-

rection of the pallet halves is substantially smaller than the wool of the planks. Put it otherwise, the planks protrude at the inner side from the chocks for a substantial part.

[0026] This has the advantage that a good support for the load is obtained providing a large contact area between the upper side of the pallet halves and the bottom of the load, and the pallets also having sufficient air at their bottoms, so that they will not tilt very easily. The small embodiment of the chocks has the advantage that they are less easily damaged by the forklift truck. The planks serve as an elongation of the short forks of the forklift truck.

[0027] Departing from the situation depicted in figure 1 a load 5 is located on both pallet halves 2, as shown in figure 2. The load 5 is formed by packs of rockwool 6 in the present case.

[0028] After that, a sheet of stretch foil is wound around the load by a vertical stretch winding apparatus. The stretch forms thus an envelope 7.

[0029] Subsequently, the thus formed combination is ready for transport. Therefore, this unit can easily be engaged at its bottom by a forklift truck and can be brought to a truck or on a rail wagon.

[0030] When the stretch foil has been removed and the pallets have been emptied, the resulting pallet halves have to be returned to their original location. Herein resides the fact that the pallet halves can be located mutually adjacent, so that a substantial saving of volume is obtained relative to the return transport of classical pallets can be used, while further the configuration of the pallet halves, wherein the chocks have a smaller width than the planks, allows to locate the pallet halves mutually engaging using even less volume. Herein it is important to point out that the thickness of the two planks should be smaller than the thickness of a chock. Thus an attractive form of pallet is obtained.

[0031] It will be clear that the present embodiment can be varied; it is for instance possible to choose the number of chocks different, wherein in connection with the possibility of engaging by a forklift truck preferably an odd number of chocks is used. Further, the pallet can be made of widely varying materials; use can be made of the classical material wood, which has possibly undergone a life-lengthening process, while it is also possible to use metals, like aluminium or steel and combinations thereof, possibly with wood.

Claims

1. Combination of a load with a substantial flat bottom and a pallet located under said load, wherein the load and the pallet are only mutually connected by at least one element extending around the load and the pallet, **characterized in that** the pallet comprises two separate elongate parts extending mutually parallel.

2. Combination as claimed in claim 1, **characterized in that**, the element extending around the load and the pallet comprises an envelope, like a shrink foil or stretch foil.

3. Combination as claimed in claim 1 or 2, **characterized in that** the separate parts have substantially flat upper planes.

4. Combination as claimed in claim 1, 2 or 3, **characterized in that** the envelope is wound around a vertical axis.

5. Pallet part for forming, together with another pallet part, a load and an envelope a combination as claimed in one of the preceeding claims, **characterized in that** the pallet part comprises at least two elongate planks mutually connected by a number of chocks.

6. Pallet part as claimed in claim 5, **characterized in that** the planks are wider than the chocks and that both planks protrude from the chocks at the same side.

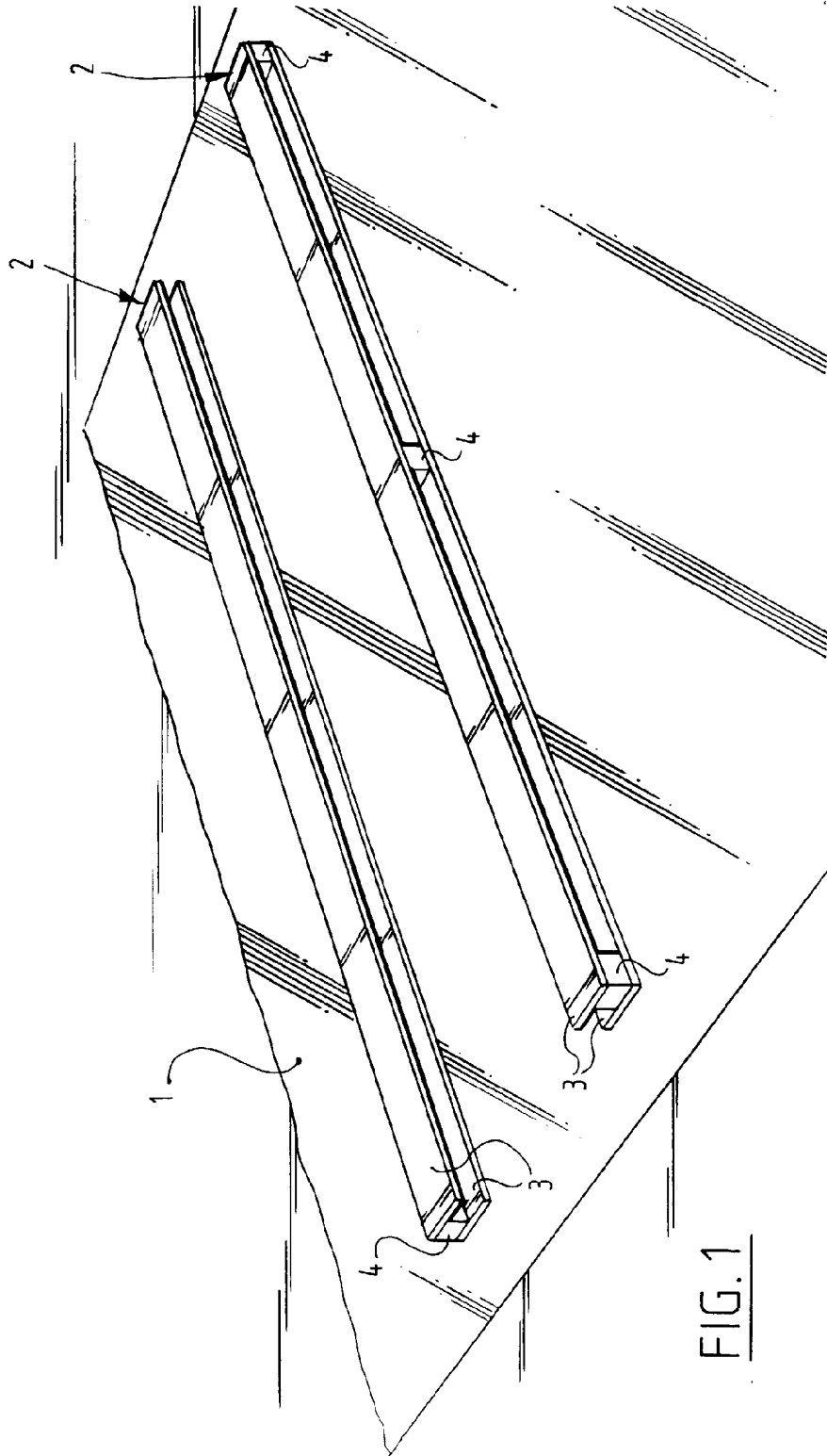
7. Pallet part as claimed in claim 5 or 6, **characterized in that** each pallet part comprises an odd number of chocks.

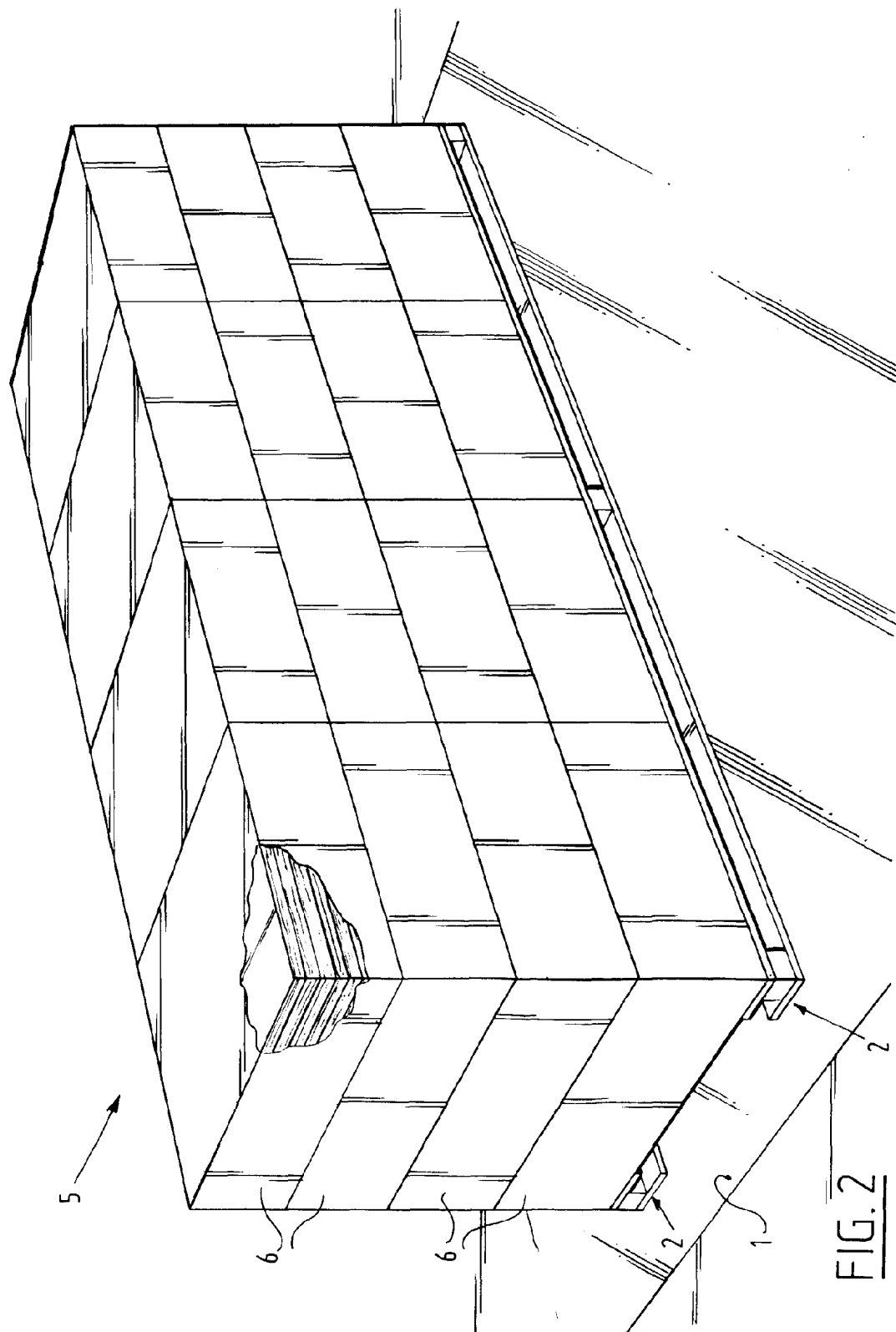
8. Pallet part as claimed in claim 5, 6 or 7, **characterized in that** the thickness of the planks is smaller than the half of the height of the chocks.

9. Combination as claimed in one of the claims 1-4, **characterized in that** the protruding parts of the planks are directed towards each other.

10. Method for constituting a combination as claimed in any of the claims 1-4 or 9, **characterized by** the following steps:

- locating two pallet parts on a floor;
- locating a load on the two pallet parts, wherein the planes of two of the side walls of the load are substantially flush with the side planes of the pallet parts; and
- applying an envelope around the combination thus formed so that the pallet parts are fixed to the load.





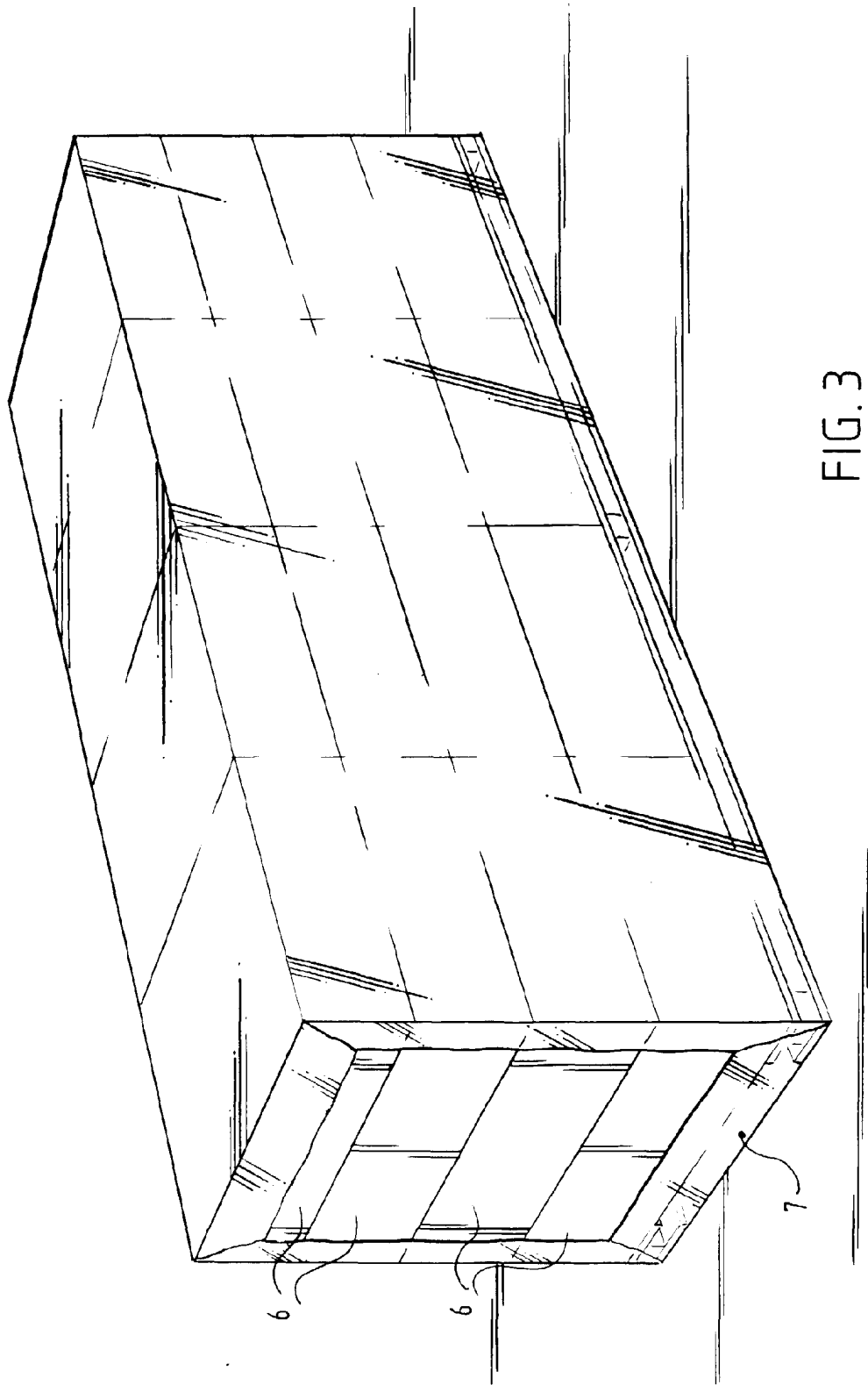
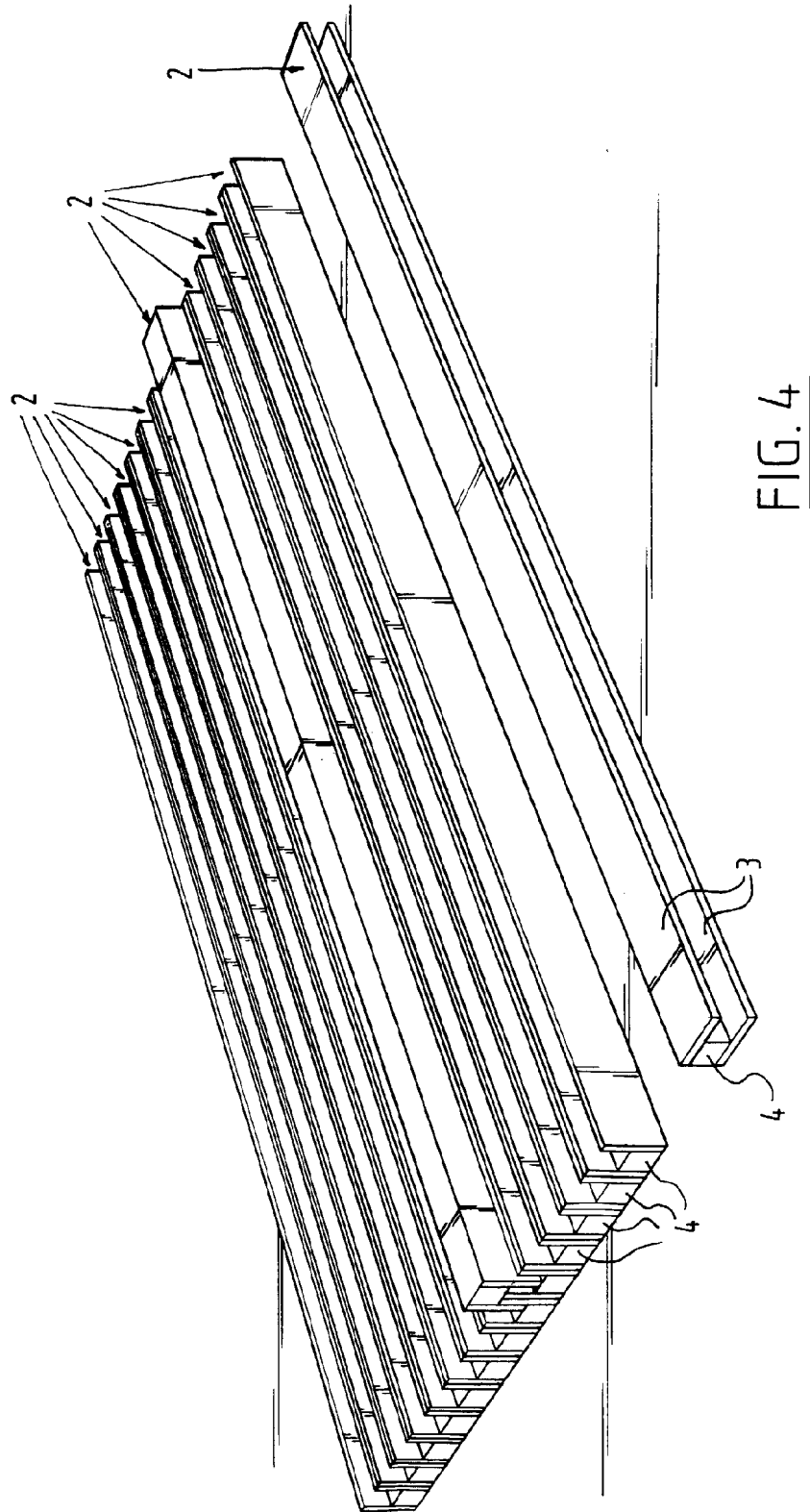


FIG. 3





European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 99 20 1124

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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21 September 1999	Examiner Berrington, N
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82